Assessment of the USEPA Region 1
Laboratory Certification Program for Drinking Water

Conducted by the

Office of Water
Office of Ground Water and Drinking Water
Standards and Risk Management Division
Technical Support Center

Date of Evaluation: September 20-22, 2017

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Contents

I. Introduction

EPA's Manual for the Certification of Laboratories Analyzing Drinking Water[1] (the "Certification Manual"), Supplement 1[2] and Supplement 2[3] require the EPA Office of Ground Water and Drinking Water (OGWDW) to review the EPA Regional drinking water laboratory certification programs annually and evaluate the resources and personnel available in each Region to carry out the certification program. To meet this requirement, assessments in the form of questionnaires are performed annually with on-site assessments conducted triennially. Each EPA Region is responsible for overseeing the certification of the principal state laboratory (PSL), or a network of laboratories serving as the PSL, in every state within the Region that holds primacy and assuring each state has the capability to analyze all regulated drinking water contaminants per federal regulations [40 CFR 142.10]. The PSL may be certified directly by the Region, or the Region may recognize the PSL as meeting the primacy requirements based on the PSL's accreditation through the National Environmental Laboratory Accreditation Program (NELAP) or with the PSL's certification by another state's laboratory certification program (SLCP).

If a PSL does not perform analyses for all regulated drinking water contaminants for a state, then the state is required to implement a drinking water laboratory certification program (LCP) or laboratory accreditation program (LAP) to certify/accredit commercial and municipal laboratories that analyze drinking water compliance samples. (For convenience, "certification" and "LCP" will be used hereafter to refer to both certification- and accreditation-based actions and programs.) The SLCP may also recognize commercial and municipal laboratories that have been certified by other SLCPs through reciprocity. The EPA Regions are responsible for assessing the adequacy of the SLCPs. Each Region holds primacy for all non-primacy states, including tribal governments that oversee public water systems [40 CFR 141.2] and certifies, or recognizes through reciprocity, those laboratories that analyze drinking water compliance samples.

OGWDW's triennial on-site Regional laboratory certification program assessment (RLCPA) of Region 1 occurred on September 20-22, 2017 at the New England Regional Laboratory in N. Chelmsford, MA. The OGWDW Technical Support Center (TSC) assessment team was comprised of Judy Brisbin and Michella Karapondo from TSC with contract support from Laurie Potter of The Cadmus Group.

This report describes the assessment of the EPA Region 1 LCP, which oversees the certification of PSLs and assessment of SLCPs in six primacy states. See Attachment A for a copy of the agenda and Attachment B for a list of attendees at the opening and/or exit meetings during the review. Commendations, findings, and recommendations are summarized below.

[1] Manual for the Certification of Laboratories Analyzing Drinking Water, Fifth Edition, 2005, EPA 815-R-05-004.
[2] Supplement 1 to the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, Supplement 1 to EPA 815-R-05-004, 2008, EPA 815-F-08-006.
[3] Supplement 2 to the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, Supplement 2 to EPA 815-R-05-004, 2012, EPA 815-F-12-006.

II. Assessment Summary

The TSC assessment team finds the Region 1 Laboratory Certification Program operates an effective laboratory certification program. Region 1 is to be commended for a high level of communication, organization, and technical expertise. However, the continued effectiveness of the Region 1 LCP is in jeopardy if the current resources are stretched further. The TSC team recommends that the Certification Officers in both the Region 1 LCP and their New England state COs return to the Certification Officer Training course conducted by TSC as soon as possible for refresher training. Commendations, Findings, and Recommendations are summarized in the subsections immediately below, and described in greater detail in Sections III through VII.

A. COMMENDATIONS

The TSC assessment team commends the Region 1 LCP for the following accomplishments/ improvements:

1. For maintaining close coordination between the LCP and Drinking Water Program staff in Boston (including with Ellie Kwong), as well as the six Region 1 states. This level of communication helps to ensure careful oversight and partnership between EPA and the state LCPs. Region 1 is commended for having quarterly conference calls with the New England COs (NECO) and an annual face-to-face meeting. Technical questions are discussed during these meetings, which permits staff to share expertise across programs. Region 1 COs continue to work at the bench which contributes to their technical skill. As a result, their audits have technical findings that maintain strong programs in the region. This cooperation creates efficiencies too. For instance, one outcome of this close coordination was the decision to have all New England states use the Connecticut asbestos laboratory, and the Region 1 program office found funds to help pay for the instrumentation. The program office also is notified if there is a laboratory certification status change, to ensure compliance data are not accepted from a laboratory that has lost its certification.
2. As recommended in the 2014 RLCPA report, the region created and executed a succession plan for the RLCPM, and the former RLCPM, Ann Jefferies, has trained Steve DiMattei in the role. The Region 1 LCP is an effective program because they have had this overlap between the experienced RLCPM and a new LCPM. TSC assessment team hopes to see this approach continue. Staff explained a CO is interested in the role, and if there is the opportunity to train her to replace Mr. DiMattei when he retires, there would be ongoing consistency. In regions that haven't had this approach, the programs have suffered.
3. The region conducted the overdue Connecticut audit in 2015, as recommended in the 2014 RLCPA, and is current on all subsequent assessments and audits.
4. The region formally updates the certification status for each laboratory certified by the region in Connecticut, Massachusetts, Maine, and Rhode Island at least annually. Certificates contain expiration dates and a list of analytes.
5. The region's oversight and observation of the NH ELAP represents a good partnership with TNI, and includes attendance at the NELAP AB review, observation of the NH ELAP assessments of New Hampshire and Vermont programs and PSL

audits, and review of semi-annual PT samples. The RLCPM reviews copies of the NH ELAP accreditation letters with lists of analytes for laboratories accredited by NH ELAP for Vermont and New Hampshire.

6. When the letter is sent from the region to the state laboratory certification officials to schedule the audit, a pre-survey form is requested to be completed prior to the on-site visit to provide the COs with background information helpful to the evaluation. These items increase productivity for the time spent by a CO on each audit/assessment, and improve the quality and consistency of reports and notes retained by the region.
7. Audit and assessment reports are thorough and well-written. Regional follow-up on corrective actions and responses from the state is usually completed within 1-2 months after the assessment or audit report is issued.
8. The electronic files are an asset to the region. Some older records are still in paper files, which are very well organized.
9. SOPs are thorough and clear with a QA slant that includes detail and careful description.

B. FINDINGS

The TSC assessment team identified the following concerns that need to be addressed for Region 1 to continue to implement an effective LCP, which is consistent with the provisions of the Certification Manual:

1. Region 1 LCP is understaffed and needs additional FTE support. Regional Quality Assurance (QA) Unit staffing has dropped from 13 FTEs to 7.5 FTEs over the past 5 years, and at the same time, staff responsibilities have expanded. Any ability to optimize staff workload has already been accomplished through this period. When the former RLCPM, Ann Jefferies, retires, the program will be even more understaffed. Therefore, the increased workloads for staff will affect completion of timely reports and limit available time for field observations, such as shadowing state COs. Additional resources are being made available to permit necessary workload shifts among staff in the QA Unit to accomplish these additional workload needs. In other regions, some duties of the RLCPM, such as review of PT results, are shared or delegated to COs or Senior Environmental Employees (SEEs). With shifting some of these duties, the Region 1 RLCPM should be able to complete two PSL laboratory audits and two on-site state laboratory certification program assessments (SLCPAs) per year, when required (which is needed to maintain the triennial schedule), issue timely audit reports, and periodically shadow state COs conducting laboratory audits. Note that after the RLCPA, the region reported that it is on course to complete at least two audits this year.
2. Laboratory audit reports need to be issued in a timelier manner. This is a repeat finding. Region 1 does, however, communicate findings to the laboratory at the time of the audit exit briefing, so the laboratory is aware of issues found in the audit. The audits have been conducted on time, but reports are slow to be issued. For example, the Massachusetts laboratory audit report was not issued for more than one year. This is a repeat finding.

C. RECOMMENDATIONS

The TSC Assessment team recommends the following to improve the effectiveness of the Region 1 LCP:

1. As a part of the Primacy agreement, each state should have the capability to analyze for all regulated contaminants. Not all state laboratories are certified for all contaminants and instead, enter into agreements with commercial laboratories for these analyses, should the need arise, and this arrangement is satisfactory to TSC. However, Region 1 is delegated with the authority to determine if the states are meeting the terms of primacy, and in doing so needs to be sure that the state has identified a certified laboratory (or laboratories) that could perform the analyses if needed. Specifically, Region 1 needs to continue to work with Maine and Massachusetts to document arrangements for monitoring the regulated radionuclides.
2. Region 1 should continue to recommend that all regional and state COs have passed the EPA CO training course and attend refresher CO training every five years. Currently, most COs in the Region and COs from Connecticut, Massachusetts, and Rhode Island have not returned for refresher training. Region 1 should continue to track which COs from which states need to attend the training and continue to recommend to the states these individuals attend via the SLCPA report. This is a repeat recommendation.
3. As a part of the SLCPA process, the Region 1 COs are encouraged to shadow state COs that are conducting on-site laboratory audits. The TSC assessment team understands the logistical challenge posed by this effort, as often it may require additional travel expenses, but nationally encourages each Region to do this as resources permit. Recognizing that Region 1 requires the submittal and routinely reviews SLCPA reports, a thorough on-site assessment of a state LCP would include the assessment of state COs.

III. Region 1 Laboratory Certification Program Overview

The Region 1 LCP is in the Region 1 laboratory in Chelmsford, MA, within the Quality Assurance Unit of the Office of Environmental Measurement & Evaluation (OEME). Johanna Hunter is the OEME Acting Director and John Smaldone is the Regional Quality Assurance Manager. Steve DiMattei serves as the Region 1 RLCPM. Arthur V. Johnson, currently the Acting Director for Ecosystem Protection, is the Region 1 Certification Authority (CA). See Attachment C for listing of all Region 1 LCP staff and titles.

At the time of the assessment, Region 1 had ten COs (with a fraction of each FTE dedicated to the Region 1 LCP): Mr. DiMattei (CO for microbiology, inorganic, and organic chemistry, radiochemistry, and *Cryptosporidium*); Dan Boudreau, Scott Clifford, and Ann Jefferies (COs for inorganic and organic chemistry); Dan Curran, Inna Germansderfer, and Bhavita Patel (COs for organic chemistry); Mike Dowling (CO for inorganic chemistry); and Maureen Hilton and Jack Paar (COs for microbiology). Subsequently, there has been a loss of two staff. The total aggregate sum of CO FTE available to support the program is approximately 1.0 full-time equivalent (FTE).

The EPA Region 1 LCP has oversight responsibility for six state LCPs (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) along with the responsibility to certify 4 PSLs in the Primacy states (Connecticut, Massachusetts, Maine, and Rhode Island). The Region is also responsible for the certification of tribal laboratories. However, there currently are no drinking water laboratories operating at the tribal nations. In total, the Region 1 LCP is responsible for the certification of 10 laboratories; two laboratories that are certified for chemistry, microbiology, and radiochemistry, and two laboratories that are certified for chemistry and microbiology.

The TSC assessment team concludes that unless additional workload shifts are made, effective state oversight requires more than the 1.0 CO FTE currently allotted by the Region 1 LCP, which lead to the finding that the Region 1 LCP remains understaffed. The RLCPM and established COs have multiple responsibilities which may limit their available time to devote to the LCP and to provide more rigorous oversight of SLCPs. Given the understaffing of the Region 1 LCP, not all responsibilities delegated to Region 1 have been thoroughly fulfilled or accomplished. Additional resources and/or continued workload shifts are needed to assist with various non-drinking water duties assigned to the RLCPM, which is a repeat finding from the 2014 assessment.

IV. State Laboratory Certification Program Assessments by Region 1

To meet the Certification Manual's recommendation for yearly review of the SLCPs, Region 1 forwards the TSC Annual Questionnaire (AQ) to the states for completion, and then compiles the responses and sends the document to TSC. In addition to this annual LCP review in the form of the AQ, the region should be performing on-site assessments of the state LCPs on a triennial basis, at a minimum.[4] However, the region is not current in conducting one triennial assessments at the state of New Hampshire. This is a repeat finding from the 2014 RLCPA report. Attachment D shows the most recent dates of the on-site LCPAs performed for each state in Region 1.

The state of New Hampshire is a TNI Accreditation Body (AB) and therefore the TNI standard is used to accredit chemistry laboratories in New Hampshire. Region 1 routinely participates in the on-site assessment of NH ELAP by the TNI Evaluation Team. Region 1 also observes the NH ELAP laboratory audits of the PSLs for New Hampshire and Vermont. The LCPM also reviews the Assessment Appraisal Forms sent voluntarily by the laboratories accredited by NH ELAP which rate the quality of the NH ELAP assessments. The onsite assessments of NH ELAP meet the intent of the Certification Manual's recommendations for the states of New Hampshire and Vermont and forms the basis for Commendation number 5.

As noted in Section V. below, the TSC audit team commends Region 1 for maintaining highly qualified COs and notes that the quality of the audits conducted by Region 1 reflects the COs

[4] EPA's Manual for Certification of Laboratories Analyzing Drinking Water, Fifth Edition, specifies in Chapter II that the region must perform an annual review of State/Tribal certification programs and proficiency testing results and monitor the adequacy of State/Tribal programs for certifying laboratories. Chapter III notes that the review should be done in person during an on-site audit when possible, and at least by means of a questionnaire in the other years. In the Introduction, a similar requirement for TSC to review the regional laboratory certification programs specifies triennial on-site evaluation, which is the expectation and goal established by regions for assessments of state laboratory certification programs.

commitment to maintaining proficiency in analytical methods by spending time at the bench performing those analyses. Such a team of technical personnel serves to strengthen the laboratory certification program thereby protecting public health. The Region 1 laboratory certification team members' familiarity with the approved drinking water methods and bench scale laboratory testing experience allows these COs to serve as technical experts for the laboratories they oversee. This served the basis of commendation number 1.

However, as recommended in the Certification Manual, COs should attend refresher training every five years after initially completing the training course. Refresher training allows the COs to stay up-to-date on the most current developments in the drinking water program. There are several COs from the Region 1 states that are considerably past-due the recommended timeframe for attending the refresher training. Attachment F shows the training status for each CO in Region 1, and COs who are past due the recommended timeframe to attend the training are highlighted. Region 1 should encourage these individuals to attend refresher training, as soon as possible.

V. State Laboratory Audits by Region 1

Attachment F shows the laboratories audited and certified by Region 1 for the last two audit cycles. Each laboratory should be audited on a triennial basis by Region 1 to maintain certification. In one case, Region 1 has not kept current in conducting audits of the laboratories it certifies on a triennial basis. In Attachment F, the laboratory that was past due for the triennial on-site is highlighted in yellow. Region 1 needs to keep to a triennial on-site schedule to add support to its decision to certify the laboratory.

On-site audits conducted by Region 1 appear well planned with the laboratories. Region 1 sends a pre-survey information form prior to the onsite visit and receives information that can be reviewed in advance. The pre-survey form requests the state to submit data packages prior to the audits so they can be reviewed before the onsite audit. Review of randomly selected data packages represents a key part of documentation for the certification decision. The on-site audits include interviews with laboratory staff and reviews of SOPs, QA documents, and recent PT results submitted since the previous on-site audit.

As noted above and in Commendation number 1, the TSC audit team commends Region 1 for maintaining highly qualified COs and notes that the quality of the audits conducted by Region 1 reflects the COs commitment to maintaining proficiency in analytical methods by spending time at the bench performing those analyses. Such a team of technical personnel serves to strengthen the laboratory certification program thereby protecting public health. The Region 1 laboratory certification team members' familiarity with the approved drinking water methods and bench scale laboratory testing experience allows these COs to serve as technical experts for the laboratories they oversee.

Region 1 contracted with an auditor from the New York Department of Health LCP to audit asbestos labs, and he has since retired. The resulting lack of asbestos expertise is a concern for the region. Region 1 identified other challenges with certification for asbestos. There is a concern regarding the availability of asbestos PTs. The region has asked for help with asbestos audits through several channels, such as communicating the problem to the Office of Water and throughout the region and inquiring with the regional science council to see if any resources are available. The region will continue to try to find expertise and conduct the next audit

Upon completion of the on-site audit, the region issues an audit report and certification to the laboratory. The reports issued by Region 1 include: the certification status of the PSL, overview of personnel and evaluation of training records, laboratory facilities, laboratory equipment and instrumentation, general laboratory practices (including safety and QA), staff capability to perform the required analytical methods, and records. The TSC assessment team noted the RLCPM tracks corrective actions in all cases. Region 1 conducts the audits and certifies the PSLs in Connecticut, Massachusetts, Maine, and Rhode Island. The PSLs in New Hampshire and Vermont are accredited by NH NELAP, which Region 1 accepts by granting secondary certification.

The TSC assessment team noted that Region 1 did not issue a report in a timely manner. The April 6, 2017 SOP "SOP DWLabAudit2017signed.pdf" states the draft audit reports should be sent to the lab within 2 to 4 weeks of the on-site audit. The Certification Manual recommends reports be issued within 30 days of the audit, but the audit team recognizes that a longer time frame may be necessary (especially in complicated situations), and ideally within six months. In Attachment F, darkened fill indicates audits where the region took nine months or longer to issue a report after the on-site audit had occurred. Although the Region communicates findings at the time of its audit exit briefings, failure to issue the reports in a timely fashion makes EPA appear slow and unresponsive.

Although the Region is able to communicate any findings at the time of its audit exit briefings, delay in issuance of the report for the most recent on-site audit of the Massachusetts laboratory raises concern. The laboratory was audited for chemistry and microbiology in March 2016 and the report was not issued until July 2017. Reports for the previous audits in 2013 were not provided until February 2016, so the region asked the state to provide a combined corrective action plan for both the 2013 and 2016 audits. The Maine audit onsite was conducted in April 2017 and the report was issued within the ideal time of 6 months at the time of the RLCPA. However, this did not cause a delay in a certification decision. The TSC assessment team encourages Region 1 to expeditiously issue reports.

> Tracking of certification status, while a manual process, is adequate. Region 1 receives PT study reports from vendors and the electronic files are saved in well-organized paper files used by the RLCPM. The RLCPM manually confirms certification status in October or November to allow time for labs to make up PTs if necessary. Most other regions are using electronic systems, which may save time and the new RLCPM is weighing conversion to an electronic tracking system.

One laboratory certified by Region 1 had a change in status over the triennial period. The Maine HETL laboratory was downgraded to provisional certification for two failed PT samples on three occasions in 2016 and 2017, but restored to full certification after submitting two sets of successful PT samples. Region 1 is to be commended for detecting such critical findings and following up with the laboratory.

Data falsification and fraud were identified by the region in Maine. The Micmac tribal laboratory was closed after concern about possible data falsification was found. The tribe was allowed to withdraw their request for certification, rather than lose certification. The Maine HETL had a claim of data falsification for certifying microbiological samples were checked for temperature upon receipt at lab, when they were not. The claim was filed with the state LCP, then the region, and appropriately referred to the Maine Office of Inspector General and is an ongoing

investigation. The incidents demonstrated additional evidence of the good relationship between the RLCP and Drinking Water program office, as the Branch Chief keeps the RLCPM updated on the progress of the investigation.

States that have accepted primacy must fulfill the requirements of 40 CFR 142.10(b)(4) and have the capability (or have access to laboratories with the capability) to perform analytical testing for all contaminants specified in the national primary drinking water regulations. Some analytes were not included on the certificates issued to the PSL, and may align with the contaminants that are waived in these states (marked in following table as "waiver" based on responses to the March 2018 Annual Questionnaire [AQ]).

Missing Analytes from PSL Certificates				
Analyte/State	CT	MA	ME	RI
Dibromochloropropane			X	
Dalapon	X			
Dioxin (2,3,7,8-TCDD)	X	X	X	X
Diquat		X	X	X
Endothall	X	X	X	X
Ethylene dibromide			X	
Glyphosate		X	X	X
PCBs (as decachlorobiphenyl)	X	X	X	X
Picloram			X	
HAA5s	X			
All Radiochemistry except Gross Alpha			X	

The assessment team reviewed the 4 PSLs audited by the region to confirm whether the state PSL/PSL networks had ensured capability to analyze all drinking water compliance samples. If a state cannot provide capability through its PSL/PSL network, the PSL should establish contracts or MOUs with other PSLs or commercial laboratories that are certified for those contaminants. Although the region received e-mail confirmation of agreements to analyze compliance samples, no evidence of contracts or MOUs were found in the PSL files that the TSC assessment team examined. Additional information was included in this table based upon feedback from the AQ

in March 2018. This supplemental information allowed inclusion of the PSLs for NH and VT, which are accredited by NH NELAP.

VI. Records Management

In compliance with the SOP, two rounds of all records for audits and assessments are in local file drawers or shared drive. The region stores most records electronically, while older records are very well-organized by state and topic in hard copy files. Files contain PSL audit reports and SLCPAs, agendas, printouts of email correspondence, checklists and completed pre-survey information forms, corrective action plans, certification letters for PSLs, notifications of change of certification status to program office and states (where relevant), data packages, state and laboratory SOPs, PT reports, IDCs, MDL studies, and responses to annual questionnaires. The electronic records only include the most recent triennial cycles for most states.

Useful files, such as checklists, the pre-survey form, and templates for conducting laboratory audits and assessing the SLCPs are also available electronically.

VII. Communication and Technical Assistance

States commonly consult with the RLCPM and COs in Region 1. There is regular communication with the Drinking Water Program staff including a quarterly conference call with the state DW certification officers and annual face-to-face meeting. Email and phone calls also occur between LCP and DW Program staff. Most questions are answered by the region, or TSC is consulted when needed.

The TSC assessment team encourages the region to continue to meet regularly with the state COs and to attend the webinar offered by TSC in January 2018.

Attachment A: Agenda, Region 1 RLCPA, September 20-22, 2017

Region 1 Regional Laboratory Certification Program Assessment

Agenda

September 20-22, 2017

Wednesday, September 20

9:00 am TSC arrives at Region 1 lab
Approx. 9:15 – 9:30 Opening Meeting

- Introductions of TSC assessment team and Region 1 attendees
- Confirm scope of assessment activities
    - Review records of Region 1 oversight and certification of Principal State Laboratories
    - Review records of Region 1 oversight of State laboratory certification programs
    - Confirm PTs are being performed/passed
- Confirm schedule
    - Establish time for closing meeting

9:30 – Noon Review Region 1 records
1:00 – 5:00 Continue record reviews

Thursday, September 21

Arrive at Region 1 lab by 9:00 a.m.
9:00 – Noon Continue record reviews
Noon – 1:00 Lunch
1:00 – 4:00 Continue record reviews, tour lab facility
4:00 – 5:00 Closing meeting (tentative)

Friday, September 22

Arrive at Region 1 lab by 9:00 a.m. (if additional review is required or questions must be answered)
9:00 – 12:00 Continue record reviews and address questions raised at closing meeting

Attachment B: Attendees at EPA Region 1 RLCPA opening and exit meetings September 2017

Opening Meeting September 20, 2017
Exit Meeting September 21, 2017

Participant	Program	Role	Meeting
Johanna Hunter	EPA Region 1, OEME	Acting Director	Opening and exit meetings
Ernest Waterman	EPA Region 1, OEME	Acting Deputy Director	Opening meeting
John Smaldone	EPA Region 1	Regional Quality Assurance	Opening and exit meetings
Steve DiMattei	EPA Region 1	RLCPM	Opening and exit meetings
Ann Jefferies	EPA Region 1	RLCP	Opening and exit
Judy Brisbin	EPA OGWDW/TSC	TSC Lead Assessor, Assessment Team	Opening and exit meetings
Michella Karapondo	EPA OGWDW/TSC	TSC Assessment	Opening and exit
Laurie Potter	The Cadmus Group	Contractor, Assessment Team	Opening and exit meetings

Attachment C: Areas of Responsibility and Training Status of Region 1 LCP Personnel

Regional Administrator	Deb Szaro (acting)
Regional Certification Authority (CA)	Arthur Johnson, Director Ecosystem Protection (acting)
Region 1 Laboratory Director	Ernest Waterman (Chemistry) Katrina Kipp (Microbiology)

Regional Certification Officers

Name	**Area(s) of Responsibility** (Specify Chemistry, Microbiology, Radiochemistry, *Cryptosporidium*, etc.)	**EPA CO Training Course** (Specify Chemistry, Microbiology, Radiochemistry, *Cryptosporidium*, etc.)	**Year Passed EPA CO Training Course** [1]	**Year Last Audited EPA CO Training Course** [2]	**Year Conducted Most Recent Audit**
Steve DiMattei, Regional Laboratory Certification Program Manager (RLCPM)	Chemistry, Microbiology, Radiochemistry, and *Cryptosporidium*	Chemistry - organic & inorganic	Cancelled - 2017	Not applicable	2016
Daniel Boudreau	Chemistry - organic & inorganic	Chemistry - organic & inorganic	2001	Never audited – due 2006	2014
(William) Scott Clifford	Chemistry - organic & inorganic	Chemistry - organic & inorganic	1988	Never audited – due 1993	2016
(Hugh) Daniel Curran [3]	Chemistry - organic	Chemistry - organic & inorganic	2016	Not applicable – due 2021	2017
Michael Dowling	Chemistry - inorganic	Chemistry - organic & inorganic	1990	Never audited – due 1995	2016
Inna Germansderfer	Chemistry - organic	Chemistry - organic & inorganic	2006	Never audited – due 2011	2016
Maureen Hilton	Microbiology	Microbiology *Cryptosporidium*	2002 2016	Never audited – due 2011 Not applicable – due 2021	2015 Never audited
Ann Jefferies- now retired	Chemistry - organic & inorganic	Chemistry - organic & inorganic	1997	Never audited – due 2002	2016
Jack Paar	Microbiology	Microbiology *Cryptosporidium*	1995 2016	Never audited – due 2000 Not applicable – due 2021	2017 Never audited
Bhavita Patel	Chemistry - organic	Chemistry - organic & inorganic	2015	Not applicable – due 2020	2016

[1] Entry highlighted if CO Training not passed.
[2] Entry highlighted if refresher course Audit of CO Training is 5 or more years overdue.
[3] Steve DiMattei noted that Daniel Curran is in hospice at time of assessment. Update: Dan Curran passed away September 25, 2017.

Attachment D: State Laboratory Certification Programs in Region 1

Primacy Agency	Agency	Date of most recent on-site SLCPA performed by Region 1
Connecticut	DPH	06/09/2015
Massachusetts	DEP	03/14-17/2016
Maine	DHHS/CDC	12/11/2014
New Hampshire	DES	05/15/2014
Rhode Island	DOH	04/12/2016
Vermont	DOH	8/22/2016

Attachment E: Drinking Water Certification Officers for Region 1 States

State COs/3rd Party Auditors/Technical Experts						
Name	**Affiliation**	**State**	**FTE Devoted to DW Cert**	**Area(s) of Responsibility** (Specify Chemistry, Microbiology, Radiochemistry, *Cryptosporidium*, etc.)	**Year Passed EPA CO Training/class**	**Year Last Audited EPA CO Training/class [1]**
Dermot Jones	CT DPH	CT	0.63	Chemistry - organic & inorganic Microbiology Radiochemistry Asbestos	1994 - organic & inorganic 1994 2006 – MN Training Not applicable	2017 Never audited – due 1999 Not applicable Not applicable
Philip Schlossberg	CT DPH	CT	0.50	Chemistry - organic & inorganic Microbiology	1985 - organic & inorganic 1984	Never audited – due 1990 Audited 2006 – due 2011
Jenna (Peardon) Kotuli	MA DEP	MA	0.75	Microbiology	2003	Never audited – due 2008
Lisa Touet	MA DEP	MA	0.60	Chemistry - organic & inorganic Microbiology	2000 - organic & inorganic 2002	Never audited – due 2005 Never audited – due 2007
Christine Blais	ME DHHS	ME	0.40	Chemistry - organic Chemistry – inorganic Microbiology	2014 - organic 2016 - inorganic 2015	Not applicable – due 2019 Not applicable – due 2021 Not applicable – due 2020
Jennifer Jamison	ME DHHS	ME	0.60	Chemistry - organic Chemistry - inorganic Microbiology *Cryptosporidium*	2015 - organic 2014 - inorganic 2013 2014	Not applicable – due 2020 Not applicable – due 2019 Not applicable – due 2018 Not applicable – due 2019
Tyler Croteau	NH DES	NH	?	Chemistry - organic & inorganic Microbiology *Cryptosporidium*	2015 2016 2016	Not applicable – due 2020 Not applicable – due 2021 Not applicable – due 2021
Bill Hall	NH DES	NH	?	Chemistry - organic & inorganic Microbiology Radiochemistry *Cryptosporidium*	2007 – organic & inorganic 2008 Attended MN Training 2010	2014 Never audited – due 2013 Not applicable 2013
Henry Leibovitz, Ph.D.	RI DOH	RI	?	Chemistry - organic & inorganic Microbiology	2005 – organic & inorganic 2006	Never audited – due 2010 Never audited – due 2011
Michael Sodano, 3rd party auditor	RI DOH	RI	?	Chemistry - organic & inorganic Microbiology	1980 – organic & inorganic 1995	Never audited – due 1985 Never audited – due 2000
William George Mills	VT DOH	VT	0.20-0.30	Chemistry - organic & inorganic Microbiology	1990 – organic & inorganic 1985	Never audited – due 1995 Never audited – due 1990

[1] Entry highlighted if refresher course Audit of CO Training is 5 or more years overdue.

Attachment F: Laboratories Certified by Region 1

State/ Territory/ Tribe/Other	Laboratory Name/Location and type	Chemistry	Microbiology	Radiochemistry
		Dates of last 2 on-site audits/who conducted audits **Yellow highlight indicates on-site audit was not conducted on a triennial basis; darkened fill indicates report/certification from on-site audit was issued at least 9 months after on-site audit occurred.**		
CT DPH	Dr. Katherine A. Kelley State Public Health Laboratory Rocky Hill, CT/State	EPA Region 1 03/23/2015* (Report 04/2015 and finalized 8/2015) Previous audit: 04/2011 Note: certified for asbestos too. Done previously by Dr. Webber of NYSDOH, who has retired *	EPA Region 1 03/23/2015 (Report 08/2015) Previous audit: 04/2011	EPA Region 1 and EPA contractor 06/02/2015 (Report 07/15/2015) Previous audit: 08/2012
Massachusetts	Senator William X. Wall Experiment Station Laboratory Lawrence, MA	EPA Region 1 03/14/2016 (Report issued 7/27/2017. Note report for Feb 2013 audit not provided until 2/29/2016 so R1 asked state to provide combined CA plan for both 2013 and 2016).	EPA Region 1 03/14/2016 Previous audit: 02/2013	(Agreement with CT DPH)
Maine	Maine DHHS Health and Environmental Testing Laboratory Augusta, ME	EPA Region 1 04/03/2017 (Report still not issued) Previous audit: 03/2014	EPA Region 1 04/03/2017 (Report still not issued) Previous audit: 03/2014	EPA Region 1 and EPA contractor 04/03/2017 (Report still not issued) Previous audit: 03/2014
New Hampshire	NH DHHS Environmental Laboratory Concord, NH	NH NELAP Oct 6-9, 2015 Planned Oct 31 – Nov 3, 2017 (Ann or Steve to attend portions)	NH NELAP Oct 6-9, 2015 Planned Oct 31 – Nov 3, 2017 (Ann or Steve to attend portions)	NH NELAP Oct 6-9, 2015 April 2014 Planned Oct 31 – Nov 3, 2017 (Ann or Steve to attend portions)

State/ Territory/ Tribe/Other	Laboratory Name/Location and type	Chemistry	Microbiology	Radiochemistry
		Dates of last 2 on-site audits/who conducted audits **Yellow highlight indicates on-site audit was not conducted on a triennial basis; darkened fill indicates report/certification from on-site audit was issued at least 9 months after on-site audit occurred.**		
Rhode Island	Rhode Island State Health Laboratories Providence, RI/State	EPA Region 1 4/11-16/2016 (Report 9/28/2016) Previous audit: 03/2013	EPA Region 1 4/11-16/2016 (Report 9/28/2016) Previous audit: 03/2013	(Agreement with CT DPH)
Vermont	Vermont Dept. of Health Laboratory Colchester, VT	NH NELAP 8/23-25/2016 (Report 10/3/2016) Previous audit: 07/2014	NH NELAP 8/23-25/2016 R1 attended opening and 1 day (Ann and Steve split up and watched Bill and Tyler work) (Report 10/3/2016) Previous audit: 07/2014	NH NELAP (accredited by them) and EPA contractor, and Region 1 May 1-4, 2017 (Report 10/3/2016) Previous audit: 07/2014